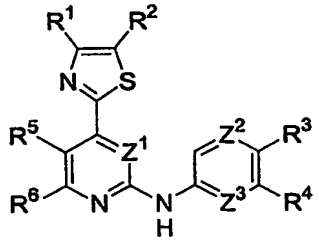
CLAIMS

1. A compound of formula I, or a pharmaceutically acceptable salt thereof,



I

wherein:

Z^1 is N or CH;

Z^2 and Z^3 are each independently N or CR^7;

R^1, R^2, R^3, R^4, R^5, R^6, and R^7 are each independently H, R^8, or R^9;

each R^8 is independently a hydrocarbyl group; and

each R^9 is independently halo, NO_2, alkoxy, CN, CF_3, SO_3H, $SO_2NR^{10}R^{11}$, SO_2R^{12}, $NR^{13}R^{14}$, $(CH_2)_aCOOR^{15}$, $(CH_2)_bCONR^{16}R^{17}$, $(CH_2)_cCOR^{18}$ or $(CH_2)_dOH$;

a, b, c and d are each independently 0, 1 2 3 or 4;

R^{10-18} are each independently H or alkyl;

provided that when R^1 and R^2 are both H,

Z^1 is CH; or

Z^2 is N; or

Z^1 is CH and Z^2 is N;

and wherein the compound is other than 4-(4,5-dimethylthiazol-2-yl)-N-(3,4,5-trimethoxyphenyl)-2-pyrimidineamine or 4-(5-(2-hydroxyethyl)-4-methylthiazol-2-yl)-N-(3,4,5-trimethoxyphenyl)-2-pyrimidineamine.

2. A compound according to claim 1 wherein each R^8 is independently a C_{1-30} hydrocarbyl group, optionally containing up to twelve heteroatoms selected from N, S, and O, and optionally bearing up to six substituents each independently selected from halo, NO_2, CN, CF_3, SO_3H, SO_2NH_2, SO_2Me, OH, NH_2, COOH, and $CONH_2$.

3. A compound according to claim 1 or claim 2 wherein each R^8 is independently an alkyl group, an aryl group or a cycloheteroalkyl group.

4. A compound according to claim 1 or claim 2 wherein each R^9 is independently halo, NO_2, alkoxy, CN, CF_3, SO_3H, SO_2NH_2, SO_2Me, OH, NH_2, $(CH_2)_aCOOR^{15}$, $(CH_2)_dOH$, $CONH_2$ or COR^{18}.

5. A compound according to any preceding claim wherein:
R^1 is H, alkyl, aryl, $(CH_2)_aCOOR^{15}$ or OH;
R^2 is H, $(CH_2)_dOH$, $(CH_2)_aCOOR^{15}$, COR^{18} or alkyl;
R^3 is halo, H, alkoxy, cycloheteroalkyl, alkyl or OH;
R^4 is H, NH_2, OH, alkyl, CF_3 or NO_2; and
R^5 and R^6 are both H.

6. A compound according to any preceding claim wherein:
R^1 is H, Me, Ph, CH_2COOMe or OH;
R^2 is H, $(CH_2)_2OH$, COOEt, COMe or Me;
R^3 is Cl, H, OMe, N-morpholinyl, N-pyrrolidinyl, Me or OH;
R^4 is H, NH_2, OH, Me, CF_3 or NO_2; and
R^5 and R^6 are both H.

7. A compound according to claim 1 wherein Z^1 is CH and Z^2 and Z^3 are each independently N or CR^7.

8. A compound according to claim 7 wherein Z^2 and Z^3 are each independently CR^7.

9. A compound according to claim 7 or claim 8 wherein;
R^1 is alkyl or OH;
R^2 is alkyl or COR^{18};
R^3 is OH or halo; and
Z^2 and Z^3 are both CH.

10. A compound according to claim 9 wherein R^1 is Me or OH, R^2 is COMe or Me, and R^3 is OH or Cl.

11. A compound according to claim 1 wherein Z^1 is N and Z^2 and Z^3 are each independently N or CR^7.

12. A compound according to claim 11 wherein Z^2 and Z^3 are each independently CR^7.

13. A compound according to claim 12 wherein:
R^1 is alkyl, aryl, OH or $(CH_2)_aCOOR^{15}$;
R^2 is COR^{18}, H, $COOR^{15}$ or alkyl;
R^3 is halo, H, OH, alkyl or morpholino;
R^4 is H, NH_2, OH, CF_3 or NO_2; and
Z^2 and Z^3 are both CH.

14. A compound according to claim 13 wherein:
R^1 is Me, Ph, OH or CH_2COOMe;
R^2 is COMe, H, COOEt or Me; and
R^3 is halo, H, OH, alkyl or morpholino.

15. A compound according to claim 11 wherein Z^2 is N and Z^3 is CR^7.

16. A compound according to claim 15 wherein:
R^1 is H, OH or alkyl;
R^2 is H, $(CH_2)_dOH$, alkyl, $(CH_2)_aCOOR^{15}$, COR^{18};
R^3 is halo, alkoxy or heterocycloalkyl;
R^4 is H or alkyl; and
Z^3 is CH.

17. A compound according to claim 16 wherein:
R^1 is H, OH or Me;

R^2 is H, $(CH_2)_2OH$, Me, COOEt, COMe;

R^3 is halo, OMe or N-pyrrolidinyl;

R^4 is H or Me; and

Z^3 is CH.

18. A compound according to claim 1 which is selected from the following:

1-{2-[2-(4-Chloro-phenylamino)-pyrimidin-4-yl]-4-methyl-thiazol-5-yl}-ethanone

(4-Chloro-phenyl)-[4-(4-methyl-thiazol-2-yl)-pyrimidin-2-yl]-amine

(4-Chloro-phenyl)-[4-(4-phenyl-thiazol-2-yl)-pyrimidin-2-yl]-amine

2-[2-(4-Chloro-phenylamino)-pyrimidin-4-yl]-4-methyl-thiazole-5-carboxylic acid ethyl ester

{2-[2-(4-Chloro-phenylamino)-pyrimidin-4-yl]-thiazol-4-yl}-acetic acid methyl ester

2-[2-(4-Chloro-phenylamino)-pyrimidin-4-yl]-4-hydroxy-thiazole-5-carboxylic acid ethyl ester

N-[4-(4,5-Dimethyl-thiazol-2-yl)-pyrimidin-2-yl]-benzene-1,3-diamine

3-[4-(4,5-Dimethyl-thiazol-2-yl)-pyrimidin-2-ylamino]-phenol

[4-(4,5-Dimethyl-thiazol-2-yl)-pyrimidin-2-yl]-(3-trifluoromethyl-phenyl)-amine

(4-Chloro-3-trifluoromethyl-phenyl)-[4-(4,5-dimethyl-thiazol-2-yl)-pyrimidin-2-yl]-amine

[4-(4,5-Dimethyl-thiazol-2-yl)-pyrimidin-2-yl]-(3-nitro-phenyl)-amine

(6-Methoxy-pyridin-3-yl)-(4-thiazol-2-yl-pyrimidin-2-yl)-amine

(6-Chloro-pyridin-3-yl)-(4-thiazol-2-yl-pyrimidin-2-yl)-amine

1-{2-[2-(6-Chloro-pyridin-3-ylamino)-pyrimidin-4-yl]-4-methyl-thiazol-5-yl}-ethanone

[4-(4,5-Dimethyl-thiazol-2-yl)-pyrimidin-2-yl]-(6-methoxy-pyridin-3-yl)-amine

(6-Chloro-pyridin-3-yl)-[4-(4,5-dimethyl-thiazol-2-yl)-pyrimidin-2-yl]-amine

[4-(4,5-Dimethyl-thiazol-2-yl)-pyrimidin-2-yl]-(4-morpholin-4-yl-phenyl)-amine

[4-(4,5-Dimethyl-thiazol-2-yl)-pyrimidin-2-yl]-(4-methyl-3-nitro-phenyl)-amine

4-[4-(4,5-Dimethyl-thiazol-2-yl)-pyrimidin-2-ylamino]-phenol

2-[2-(4-Chloro-phenylamino)-pyridin-4-yl]-5-methyl-thiazol-4-ol

(6-Pyrrolidin-1-yl-pyridin-3-yl)-(4-thiazol-2-yl-pyrimidin-2-yl)-amine

2-[2-(6-Chloro-pyridin-3-ylamino)-pyrimidin-4-yl]-4-hydroxy-thiazole-5-carboxylic

acid ethyl ester
2-[2-(6-Chloro-pyridin-3-ylamino)-pyrimidin-4-yl]-5-methyl-thiazol-4-ol
2-[2-(6-Chloro-pyridin-3-ylamino)-pyrimidin-4-yl]-5-(2-hydroxy-ethyl)-thiazol-4-ol
(6-Chloro-5-methyl-pyridin-3-yl)-(4-thiazol-2-yl-pyrimidin-2-yl)-amine.

19. A compound according to claim 1 which is selected from the following:
2-[2-(4-Chloro-phenylamino)-pyrimidin-4-yl]-4-hydroxy-thiazole-5-carboxylic acid ethyl ester;
N-[4-(4,5-Dimethyl-thiazol-2-yl)-pyrimidin-2-yl]-benzene-1,3-diamine
3-[4-(4,5-Dimethyl-thiazol-2-yl)-pyrimidin-2-ylamino]-phenol
[4-(4,5-Dimethyl-thiazol-2-yl)-pyrimidin-2-yl]-(3-trifluoromethyl-phenyl)-amine
(4-Chloro-3-trifluoromethyl-phenyl)-[4-(4,5-dimethyl-thiazol-2-yl)-pyrimidin-2-yl]-amine
(6-Methoxy-pyridin-3-yl)-(4-thiazol-2-yl-pyrimidin-2-yl)-amine
(6-Chloro-pyridin-3-yl)-(4-thiazol-2-yl-pyrimidin-2-yl)-amine
[4-(4,5-Dimethyl-thiazol-2-yl)-pyrimidin-2-yl]-(6-methoxy-pyridin-3-yl)-amine
2-[2-(4-Chloro-phenylamino)-pyridin-4-yl]-5-methyl-thiazol-4-ol
(6-Pyrrolidin-1-yl-pyridin-3-yl)-(4-thiazol-2-yl-pyrimidin-2-yl)-amine
2-[2-(6-Chloro-pyridin-3-ylamino)-pyrimidin-4-yl]-4-hydroxy-thiazole-5-carboxylic acid ethyl ester
2-[2-(6-Chloro-pyridin-3-ylamino)-pyrimidin-4-yl]-5-methyl-thiazol-4-ol
2-[2-(6-Chloro-pyridin-3-ylamino)-pyrimidin-4-yl]-5-(2-hydroxy-ethyl)-thiazol-4-ol
(6-Chloro-5-methyl-pyridin-3-yl)-(4-thiazol-2-yl-pyrimidin-2-yl)-amine.

20. A compound according to claim 1 which is selected from the following:
2-[2-(4-Chloro-phenylamino)-pyrimidin-4-yl]-4-hydroxy-thiazole-5-carboxylic acid ethyl ester;
(6-Methoxy-pyridin-3-yl)-(4-thiazol-2-yl-pyrimidin-2-yl)-amine; and
(6-Chloro-pyridin-3-yl)-(4-thiazol-2-yl-pyrimidin-2-yl)-amine
2-[2-(4-Chloro-phenylamino)-pyridin-4-yl]-5-methyl-thiazol-4-ol
(6-Pyrrolidin-1-yl-pyridin-3-yl)-(4-thiazol-2-yl-pyrimidin-2-yl)-amine
2-[2-(6-Chloro-pyridin-3-ylamino)-pyrimidin-4-yl]-4-hydroxy-thiazole-5-carboxylic

acid ethyl ester

2-[2-(6-Chloro-pyridin-3-ylamino)-pyrimidin-4-yl]-5-methyl-thiazol-4-ol

2-[2-(6-Chloro-pyridin-3-ylamino)-pyrimidin-4-yl]-5-(2-hydroxy-ethyl)-thiazol-4-ol

(6-Chloro-5-methyl-pyridin-3-yl)-(4-thiazol-2-yl-pyrimidin-2-yl)-amine

21. A compound according to claim 1 which is (6-Chloro-pyridin-3-yl)-(4-thiazol-2-yl-pyrimidin-2-yl)-amine.

22. A pharmaceutical composition comprising a compound according to any preceding claim admixed with a pharmaceutically acceptable diluent, excipient or carrier.

23. Use of a compound according to any one of claims 1 to 21 in the preparation of a medicament for treating a proliferative disorder.

24. Use according to claim 23 wherein the proliferative disorder is cancer or leukemia.

25. Use according to claim 23 wherein the proliferative disorder is glomerulonephritis, rheumatoid arthritis, psoriasis or chronic obstructive pulmonary disorder.

26. Use of a compound according to any one of claims 1 to 21 in the preparation of a medicament for treating a viral disorder.

27. Use according to claim 23 wherein the viral disorder is selected from human cytomegalovirus (HCMV), herpes simplex virus type 1 (HSV-1), human immunodeficiency virus type 1 (HIV-1), and varicella zoster virus (VZV).

28. Use of a compound according to any one of claims 1 to 21 in the preparation of a medicament for treating a CNS disorder.

29. Use according to claim 28 wherein the CNS disorder is Alzheimer's disease or bipolar disorder.

30. Use of a compound according to any one of claims 1 to 21 in the preparation of a medicament for treating alopecia.

31. Use of a compound according to any one of claims 1 to 21 in the preparation of a medicament for treating a stroke.

32. Use according to any one of claims 23 to 31 wherein the compound is administered in an amount sufficient to inhibit at least one PLK enzyme.

33. Use according to claim 32 wherein the PLK enzyme is PLK1.

34. Use according to any one of claims 23 to 31 wherein the compound is administered in an amount sufficient to inhibit at least one CDK enzyme.

35. Use according to claim 34 wherein the CDK enzyme is CDK1, CDK2, CDK3, CDK4, CDK6, CDK7, CDK8 and/or CDK9.

36. Use according to any one of claims 23 to 31 wherein the compound is administered in an amount sufficient to inhibit aurora kinase.

37. Use of a compound according to any one of claims 1 to 21 in the preparation of a medicament for treating diabetes.

38. Use according to claim 37 wherein the diabetes is non-insulin-dependent diabetes or Type II diabetes.

39. Use according to any one of claims 37 or 38 wherein the compound is administered in an amount sufficient to inhibit GSK.

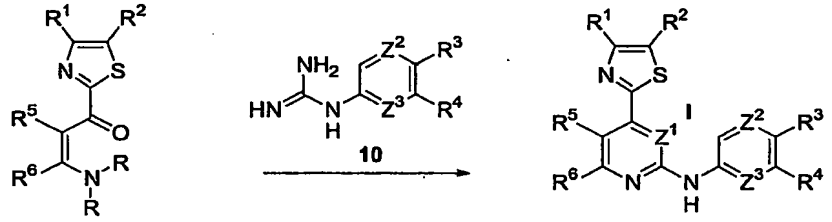
40. Use according to claim 39 wherein the compound is administered in an amount sufficient to inhibit GSK3β.

41. Use of a compound according to any one of claims 1 to 21 in the preparation of a medicament for treating an inflammatory diseases or an infectious disease.

42. Use of a compound according to any one of claims 1 to 21 in an assay for identifying further candidate compounds capable of inhibiting one or more of a cyclin dependent kinase, aurora kinase, GSK and a PLK enzyme.

43. Use according to claim 38 wherein said assay is a competitive binding assay.

44. A process for preparing a compound of formula I as defined in claim 1, said process comprising reacting a compound of formula 9 with a compound of formula 10 to form a compound of formula I, wherein R^{1-6} are as defined in claim 1



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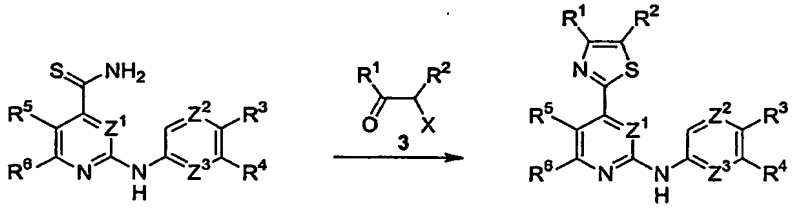
45. A process for preparing a compound of formula I as defined in claim 1, said process comprising reacting a compound of formula 15 with a compound of formula 3 to form a compound of formula I, wherein R^{1-6} are as defined in claim 1



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